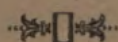


DANIELSON

Ford Service Station

EQUIPMENT



Catalog No. 26

Frank Danielson Mfg. Co.

2344 W. Austin Ave., Chicago, Ill.

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Introduction

ACCURATE workmanship in overhauling automobile, truck, and tractor motors is the secret of making satisfied customers. Accurate work, easily and efficiently done, is work which brings double profit to the service station owner.

One profit comes from the return calls for service from pleased customers and from the business which is attracted by the recommendation of these customers to their friends.

The second profit lies in the reduction in costs which can be brought about by using equipment with which accurate work can be done easily and with low labor expense.

Danielson Service Station Equipment is designed to bring these profits to the service station owner. This catalog has been prepared to show how motor repair work may be done better and cheaper with Danielson Equipment.

That Danielson Equipment will do all that we claim for it is evidenced by these figures; of the forty Ford Service Stations in Chicago and suburbs having such equipment, thirty-four are, at the time of writing, using that made by the Danielson Manufacturing Company.

We are the oldest manufacturers of Ford Service Station Equipment in the United States. Fifty years experience in machine tool designing is back of every machine in our line.

FRANK DANIELSON MFG. CO.

2344 W. Austin Ave.

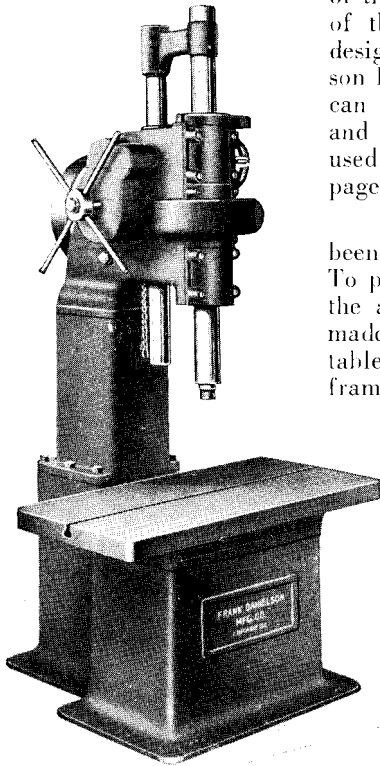
CHICAGO, ILL.

Cylinder Reaming Machine

WITH the Danielson Cylinder Reaming Machine, a Ford motor block can be accurately reamed in 30 minutes. It is a simple matter to operate the machine, which means that fine work can be done without employing especially trained men.

Reaming is the proper way to recondition worn cylinders. This is proved by the fact that factories use reamers universally, and are pulling away from grinding.

This machine has been designed to do accurate work and to be long lived. The accuracy and life of a machine of this type depend upon the bearing surface of the spindle, spindle bearings, materials, design, and workmanship. How the Danielson Reamer is outstanding in all these points can be seen from the following description, and from the experiences of men who have used them, some of which are given on page 19.



In every step in design, great care has been taken to see that all parts harmonize. To prevent stress, which might in time affect the accuracy of the machine, the casting is made of uniform thickness throughout. The table is cast separately and bolted to the frame from the inside.

Notice the base or cabinet. Its construction is typical of how weight is reduced to a minimum without sacrificing rigidity and strength.

The spindle can always be kept in perfect alignment. Three features are responsible for this advantage.

1. The worm drive which rotates the spindle is applied to it between the two spindle bearings, (1), which are of equal length and diameter. The pressure of the drive, therefore, has no tendency to bring the spindle out of alignment.

2. The feed is accomplished through a separate rack (3). This rack is connected to the spindle by means of an arm (2), which floats on the rack. This construction directs the feed pressure downward onto the spindle with no side pressure which would tend to force it out of alignment. To allow for adjustment, an oblong bushing is fitted into the spindle end of the arm.

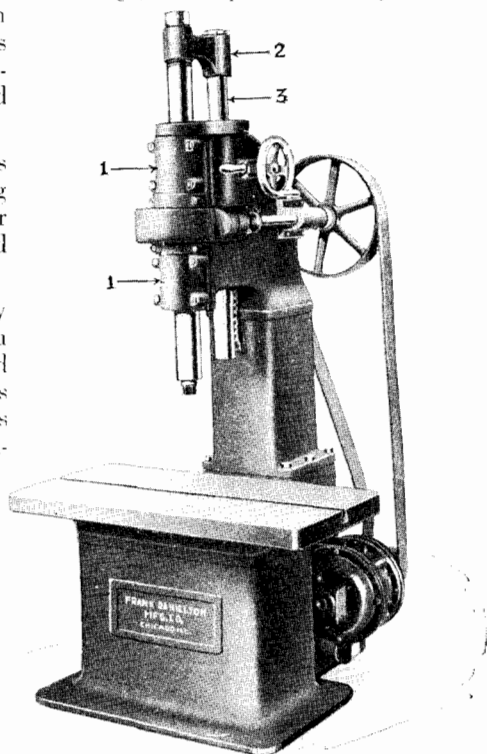
The Product of 50 Years Mechanical Designing

3. The bearing caps (1) are adjustable. The pressure of the worm drive tends to push the spindle against these caps. If, due to long use, the spindle is moved slightly away from the back bearings, the caps can be adjusted inwardly, so that the spindle again rests against the back bearings. This brings it back into perfect alignment. Adjustment is accomplished by screws. No shims are used.

In operation, the motor block is mounted close to the lower bearing (1), so that there is no tendency for the spindle to clatter or be forced out of alignment.

Through the use of the auxiliary rack (3) the necessity of having a head to carry the spindle up and down is eliminated. This reduces the weight of the moving parts, thus reducing the wear and tear and making for more accurate work and longer life.

The spindle is of high carbon steel, ground to an accuracy of two-tenths of a thousandth of an inch. Spindle drive is through a hardened and ground worm and a gray iron worm wheel. Ball bearings are used to take up end thrusts.

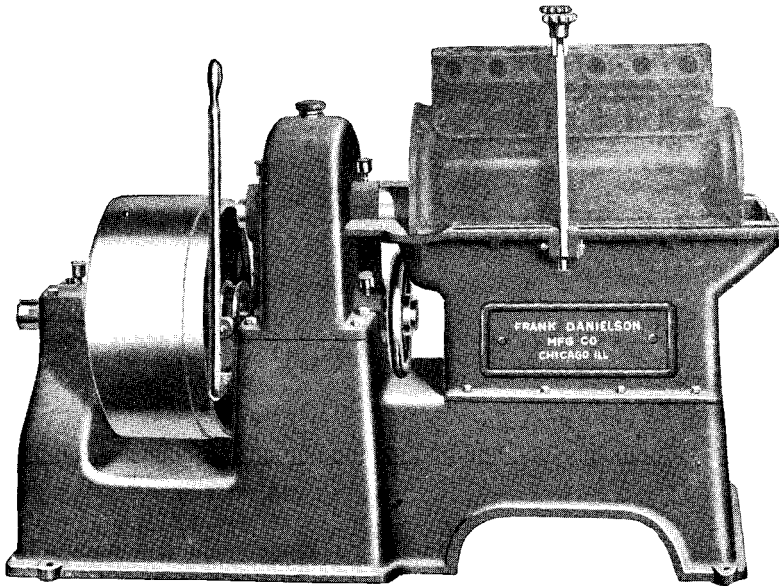


Specifications

Diameter of spindle.....	2¾"
Bearing surface on spindle.....	280 sq. in.
Travel	14"
Distance from center of spindle to column.....	10"
Distance from center of spindle to center of rack.....	7"
Diameter of rack.....	2¼"
Bearings, Phosphor Bronze	
Bearing surface	109 sq. in.
Distance from end to end of bearing assembled.....	18½"
Distance from lower bearing to table	20"
Size of table.....	18"x36"
Height from floor to top of table.....	22"
Floor Space	32"x36"
Weight	1600 lbs.

Regularly equipped with Electric Motor, 1 H.P., 3 Phase, 60 Cycle, 220 volts, mounted on base.

Other motors can be supplied where standard motors cannot be used.



Burnishing Machine

THE Danielson Burnishing Machine is universal. The regular equipment will take Ford, Fordson and Chevrolet motors without change of fixture. Fixtures can be furnished to accommodate any other make of motor.

Like all other Danielson equipment, it is built to do accurate work easily and economically. For changing from Ford to Fordson or Chevrolet, there are no fixtures to lift off and on, which must be clamped down and loosened for each operation. This saves mechanics' time.

The motor block is handled with ease by the average sized man, because 28 inches, the distance from the floor to the center of spindle, is the most convenient height. At the burnishing end the machine is narrow, allowing the operator to get within 8 inches of the center. The base is open at the sides. This gives the operator foot room, enabling him to stand straight, and hence to handle the motor more effectively.

Bearings are burnished with the crank down. Many motor jobs have been ruined by using machines which burnish with the crank up. This gives the operator a chance to keep on tightening the bearings during the burnishing process, which is wrong. If the crank and bearings had been lined up as they should be before burnishing, tightening the bearings during the operations would ruin their alignment. This cannot happen on the Danielson machine.

Accurate Work at Low Cost

For Ford and Fordson work, absolutely true burnishing cannot be done otherwise than by having the motor block set on its bottom line. This is the through center line of the crankshaft, and is the line from which the Ford Motor Company manufactures. The center of the driving spindle of our machine is held to within .0005 inch of this center line of the Ford Motor, insuring accurate work.

A Fordson motor at 1000 R. P. M. supplies ample power for burnishing and running in. The pulley, which also serves as a flywheel, weighs 400 pounds, and revolves at 500 R. P. M. It is sufficient to overcome the dead load even if the bearings are clamped down three times as tight as necessary, were the power completely shut off. This means low operation cost and low maintenance.

A six-inch double thick belt is recommended to drive this machine, though a three-inch belt will transmit more power than a ten-inch belt on some other makes of burnishing machines.

It is desirable to run in a motor after it has been completely assembled, so as to discover any oil leaks and minor troubles which are more easily remedied then than later. Running in at this time also eliminates towing the car. This results in a substantial saving in wear on tires, gears and other parts, as well as saving mechanics' time. To provide for running in motors, the rear end of the burnishing machine is equipped with a steel coupling. Here any make of motor can be run in, and the burnishing end is free at all times for its regular work. Time enough for burnishing several motors can be saved by using the running-in stand. This saving is effected by avoiding the necessity of changing the burnishing end to do a job of running-in.

Specifications

Speed of Pulley—500 R. P. M.

Gear Reduction—3 to 1, providing ample power to accomplish all burnishing jobs with a smaller rated electric motor.

Steel Gears—Large Gear, 13½ in. diameter, 40-50 carbon steel, 3-in. face.
Pinion, 4½-in. diameter, nickel steel, 3-in. face.

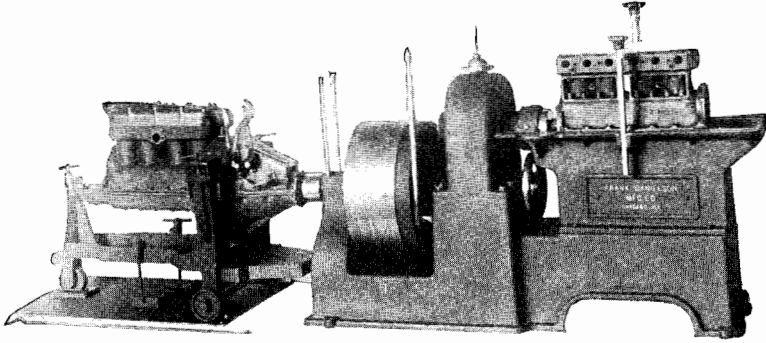
Spindles—Lower spindle, 2⅝-in. diameter, Upper, 2¾-in. 40-50 carbon steel.

Bearings—Heavy duty roller bearings throughout.

Clutch—Expanding type, wood against iron. The only practical clutch for heavy work. Capable of transmitting 150 H.P.

Floor Space—18 in. x 62 in.

Weight—1,850 lbs. crated.



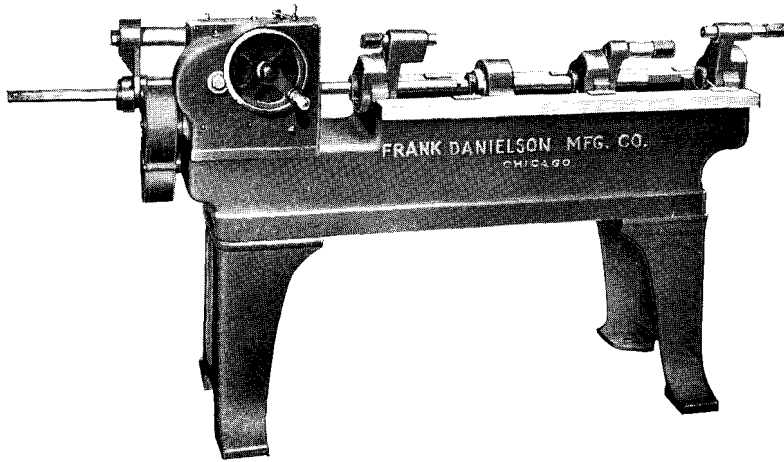
Running-In Stand

THE Danielson Running-In Stand is a separate unit from the burnishing machine, with which it is illustrated above. The motor after being securely clamped to the stand, is attached, for starting, to the steel coupling mentioned in the description of the burnishing machine, and can be operated while another motor is being burnished.

The stand is also useful for assembling, and for moving motors from place to place. It is provided with three rollers, the front roller swiveling on a pivot. A steel plate with guides for the rollers is part of the equipment, and is included with the stand. The plate is secured to the floor. Two "L" bolts from the plate hold the stand firmly in place.

The material is gray iron, and the construction is especially rigid. The two upright motor arm supports are adjustable to allow for aligning the universal joint with the spindle of the burnishing machine. After once being adjusted so that a Ford motor crankshaft will line up with the end of spindle on the burnishing machine, these motor arms are locked. No further adjustments are necessary.

Weight, including steel plate $\frac{3}{8}$ in. thick, 29 x 40 in., is 275 lbs., crated for shipment.



Main Bearing Boring Machine

THERE is no job on a motor that requires more careful work than the fitting of main bearings. Scraping bearings is a practice long since abandoned in the factories. Boring machines are used instead, because with them a better job can be turned out in a hundredth of the time required for scraping. It is by using such time and labor-saving machines that far better automobiles are built today at comparatively low costs.

Repair work can and should be improved and its cost reduced in the same way. The Danielson Main Bearing Boring Machine is a piece of equipment which will help you turn out better repair work at lower cost.

If it requires careful work to fit bearings, consider how much more careful the work must be in making a machine to bore bearings accurately, so that no scraping is necessary. We can state with confidence backed by the experience of users, that our boring machine is second to none in accuracy and workmanship, as well as in rigidity of construction.

It is believed by some that a burnishing machine will align bearings. This is not true, for if the bearings are not aligned before burnishing, the result is that during the burnishing the crankshaft will work over to the side with the least resistance. This means that the crankshaft has sprung to fit the bearings.

Main bearings not properly aligned or fitted will cause much trouble, such as crystallization of crank shaft, noisy gears, and a short lived job. You cannot afford to let such work leave your shop.

The proper method is to bore the bearings first, then burnish. Burnishing is very important, even though new or reground crankshafts are used. It is especially important where unreground crankshafts are used, and for motors where all babbitt bearings are used, and even more so where the babbitt is poured into the block, as in Ford and Fordson motors.

Danielson Service Station Equipment

The Danielson Main Bearing Boring Machine is made to bore the bearings on Ford and Fordson motors, and can easily be changed for other motors.

As built for Ford and Fordson motors, the block, with bearing caps in place, is put on the bed of the machine. It rests on hardened steel buttons which fit in between the edges of the block to insure perfect alignment. The outer edges of the block are not used for alignment because they are usually irregular with burrs and kinks from handling on motor clamps. Eight of these steel buttons are provided, four for the Ford, and four for the Fordson motor.

The links, which carry the centering pins, swivel on the boring bar bushings, and are accurately machined to give perfect gear centers.

Bearings are bored with the caps in place. This is the only way to maintain perfect alignment. There are two boring bars, each with one cutting tool. One bar is for roughing and the other for finishing.

The boring bars slide from one bearing to another, so that one tool cuts every bearing. Therefore all bearings will be bored the same diameter. Bars are connected with flexible couplings to prevent all possibility of springing. They are hardened and ground to a clearance of .0005 inch, and revolve in bushings which are also hardened and ground. It is such construction as this, maintained through the machine, which results in accurate work and long life.

Gauges Furnished for Setting Tool

Since the boring bars enter and leave the bearings without the caps being removed, a plug gauge is furnished for measuring the size of the bearings. Another gauge is furnished for setting the tools. All guesswork is entirely eliminated. This cannot be done with machines or fixtures that require bearing caps removed before boring bars can be put in or taken out.

As evidence of the accuracy of this machine, we guarantee that work turned out on it will be as perfect as similar work done in any factory anywhere. This accuracy is attained through perfection in design and workmanship, and absolute rigidity in construction.

Specifications

Length over all.....	55 in.
Floor space	17x42 in.
Height to center of Spindle.....	27 in.
Diameter of Spindle.....	3¾ in.
Spindle Bearings	Bronze
Weight	900 lbs.
Regularly equipped with ½ H.P. Electric Motor, 3 Phase, 60 Cycle, 220 Volts.	
Other motors can be supplied where Standard Motors cannot be used.	

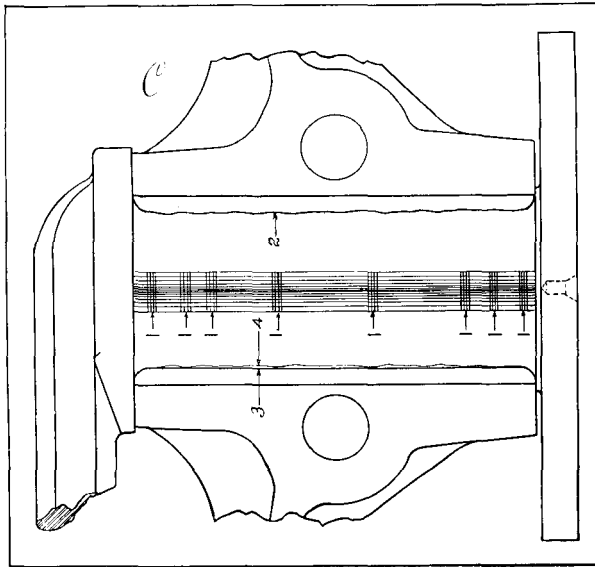


Figure A

The Relation Between Burnishing and Boring

IN Figure A, the straight line 3 represents the babbitt bearing bored or align reamed. The irregular line 4 represents the crankshaft, which has not been reground. It will be noticed that the crankshaft touches the bearing only at the high spots. If the car is sent out in this condition it will soon need the bearings taken up.

Where a bearing reamer is used when a new crankshaft is installed, the bearings are reamed a thousandth of an inch larger than the crankshaft. If a worn crankshaft is to be replaced, it is of course smaller in diameter than a new crankshaft. But the align reamer can not be set smaller to correspond to the crankshaft. So shims are put in. Then after reaming the shims are removed, and the bearing caps are pulled down to the proper snugness. As the bearing was reamed round with the shims in place, it becomes slightly out of round, or oval, when shims are removed. This means that the crankshaft will touch the bearings only at the top and bottom. (See Figure A, line 1, and Figure B, points 1 and 6.) This leaves space at the sides where there is no contact (See Figure B, points 2 and 3) allowing the crankshaft to rock in the bearings. Not only is there a place at the sides, but the contact at top and bottom is only on the high spots. (See line 4, Figure A.) If, however, our bearing boring machine is used, rather than a reamer, the bearing can be bored to fit any crankshaft, as the boring for cutting tools are adjustable. Bearings bored on our machine make contact with the shaft all around.

Another common difficulty is that, unless the motor block is heated before the babbitt is poured, the bearing will be loose in the

block, causing wear on the outside as well as the inside of the babbitt.

The burnishing machine overcomes many of these defects. Burnishing is accomplished by great pressure of the crank against the bearings. During the process the babbitt will take the shape of the crank. (See Figure A, line 2.) The babbitt will also expand so as to fit the block and will be brought into contact with the crankshaft all around rather than just at the top and bottom. Misalignment of bearings, however is not corrected by burnishing. This is a job for the boring machine.

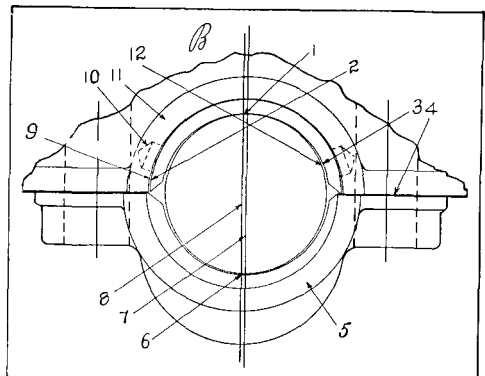
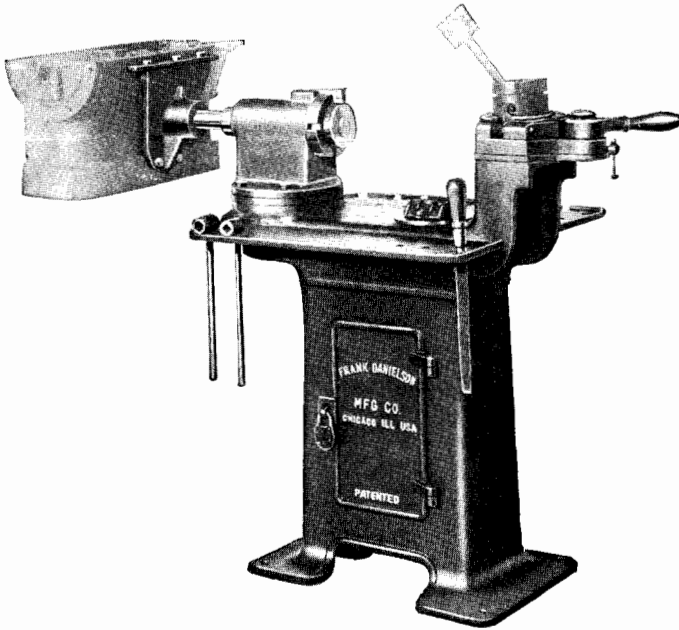


Figure B



Ford and Fordson Motor Stand

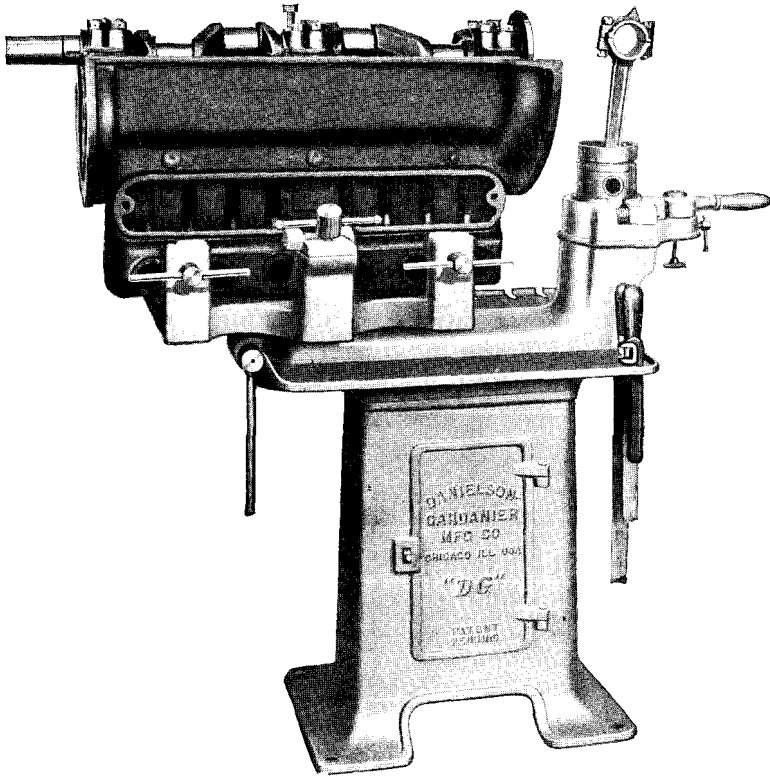
THE Danielson Ford and Fordson Motor Stand was the first combination stand on the market, and is still the most complete.

The illustration above shows the fixture for holding a Ford motor, with a motor attached. When the stand is to be used for a Fordson motor, this fixture is lifted off and another put in its place.

The stand also includes a surface plate for testing level of main and connecting rod bearing caps, a Ford and Fordson piston vise and a valve filing fixture. The piston vise is the same as that shown on page 14. Racks for holding tools within easy reach of the operator are provided.

The cabinet in the base is fitted with two shelves, and can be padlocked.

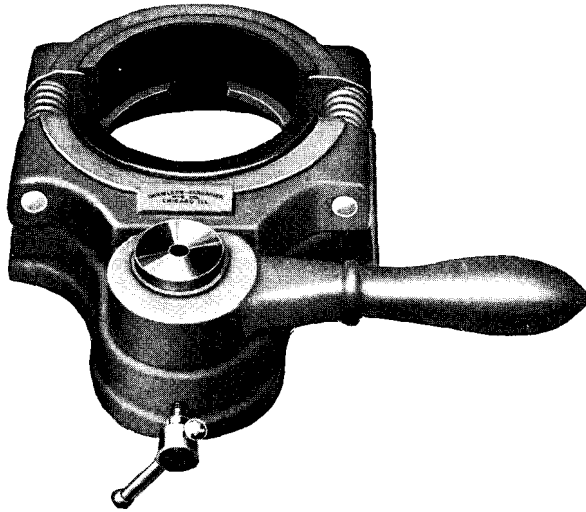
Weight 285 pounds



Motor Stand with Fordson Fixture

THIS is the same stand as that illustrated and described on page 13, but is shown here equipped with the special fixture for holding the Fordson motor. This and the Ford motor fixture are interchangeable. The stand is sold regularly with Ford fixture only, or with both Ford and Fordson fixtures.

With the Fordson motor fixture, the motor may be held either upright or on its side, and can be revolved in the horizontal plane and locked in any position. The fixture is mounted on top of the stand to keep the heavy motor over the base for the sake of safety.



Ford and Fordson Piston and Valve Vise

THIS vise is a necessity in any shop handling Ford or Fordson motors, for assembling pistons and connecting rods, replacing piston rings, removing bushings, filing valves, etc.

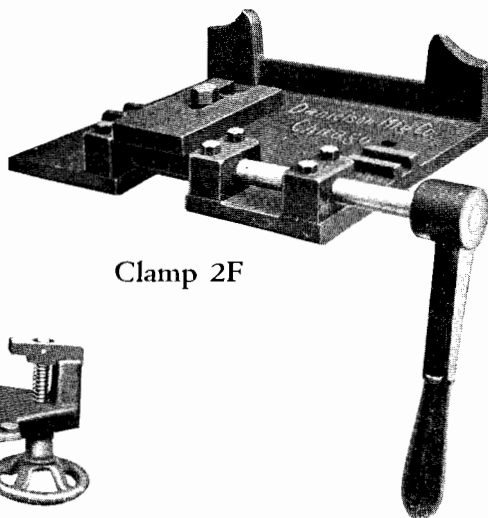
By mounting the vise so that the front end projects slightly over the edge of the bench it may be used for filing valve stems, the stem being inserted upward through the valve filing fixture so that it projects above the hardened surface exactly the amount which is to be filed off. The importance of filing the stems accurately and "square" is often overlooked, with a consequent serious effect upon the engine timing, which will develop as the "high" point on an incorrectly filed stem wears down.

Operated by a cam handle having an eccentric of correct proportions, the clamping and unclamping is positive and quick. Heavy springs hold the jaws apart for inserting the piston. They also serve to retain the clamping rings described below.

The jaws, being perfect arcs, do not squeeze the piston out of its cylindrical form. The necessity for this feature can readily be demonstrated by taking accurate caliper or micrometer measurements of a piston held tightly in a vise having only a few contact points.

To prevent any possible marring of the piston or piston rings the clamping rings are lined with fibre. Experience has proved that properly fitted fibre linings are more satisfactory than babbitt metal linings. No expense has been spared to make the rings true. They are carefully machined and the fibre is accurately pressed into place and securely fastened.

Weight 15 lbs.



Clamp 2F



Clamp 1F

Ford Motor Bench Clamps

1F. Fixture for holding Motor Block while scraping bearings, assembling and dismantling crankshaft main bearings.

The motor block is clamped securely by turning the two wheels.

Clamping members are made of machinery steel and are unbreakable.

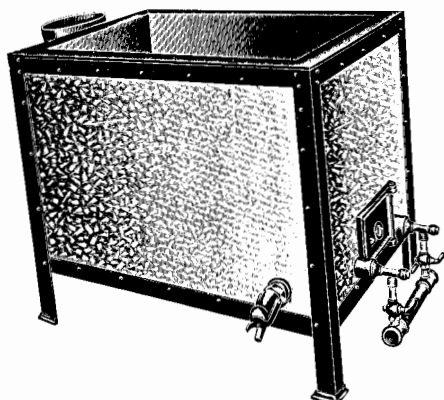
Weight.....45 lbs.

2F. Fixture for holding block on its side when assembling pistons and connecting rods. Also used when assembling magneto and transmission to crankshaft.

Clamp is made of machinery steel and is unbreakable.

Weight.....45 lbs.

Gas Heated Cleaning Tank



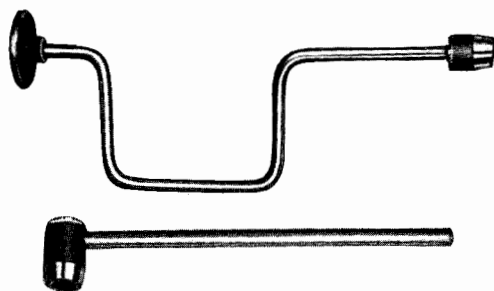
This tank is built to save mechanics' valuable time. It will clean thoroughly every part of an automobile, and save the time required to do this job by manual labor, rags and gasoline.

It consists of a heavy welded tank, insulated with asbestos and entirely surrounded by a two-inch air space through which hot air circulates freely, heating the boiling solution. The heating unit is a gas burner, and installation requires only a single connection.

Size 24" wide, 30" deep, 60" long

Capacity—180 gallons

Price—\$.....f. o. b. Chicago, Ill.



Ford Service Station Wrenches

MANY up-to-date service stations will not allow the use of cheap wrenches in their shops, as the handles of such wrenches bend long before nuts are drawn up tight. It is a proved fact that three men with specially designed tools for each purpose will turn out more and better work than five men with ordinary wrenches.

There is a Danielson wrench for every job on the Ford and Fordson. These wrenches are of the superior quality which makes for better, quicker work and economy.

Wrenches are considered a small item of expense. Still, the saving effected through the replaceable socket feature of Danielson wrenches is well worth while. For instance, our No. 3-S Speed Wrench costs \$1.00. Some of the same sized wrenches of other makes cost \$0.90. These do not have replaceable sockets. A purchase of 25 of each would cost \$25.00 for the Danielson, and \$22.50 for the ordinary wrench. Replacement sockets for the Danielson wrenches cost \$0.50 each.

The cheaper wrenches would have to be replaced at least 5 times before the Danielson sockets needed changing at all. This would cost \$112.50 as against \$25.00 for the Danielson wrenches and with the Danielson wrenches you still have the handles which can be made good as new with new sockets at \$0.50 each. It is apparent that a worth while saving can be made by using Danielson wrenches, and by getting Danielson sockets for your discarded wrenches.

Danielson sockets are easily replaced. The shank end of the socket is broached so as to make four keys, $\frac{5}{8}$ -inch long. The surfaces between the keys are press fit and

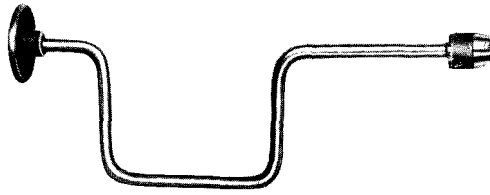
their edges are rounded to keep them from cutting the shank. As the sockets are hardened, and the keys left sharp, they act as tools when being driven onto the shank, cutting their own four key ways, or refitting key ways previously cut. A hammer and a piece of copper or brass to strike on are the only tools needed to make the replacement.

The sockets are made from hot rolled bar steel stock, contrary to the practice of manufacturers of ordinary wrenches, who use cold rolled stock.

The analysis of cold and hot rolled bars may be the same, but in cold rolling the impurities are pressed into the bars and the outer portion becomes crystallized and brittle. Since it is this portion that is used for the socket, it is evident that cold rolled stock will not produce a long-lived socket.

Hot rolled stock which has been very carefully selected after many tests is used for Danielson sockets. Bars of stock are large enough to allow for turning off scales, flaws, seams, ridges and impurities, which are always found near the surface. This must be done on hand operated machines on account of irregularities in the size of the stock. Contrast this with the automatic machine methods with which less durable sockets are made from cold rolled steel stock, and it will be understood why it costs more to produce Danielson sockets. But their longer life more than justifies this expense.

The following pages list the Danielson wrenches for Ford Cars. It is economy to equip your men with complete sets.



Speed Wrenches

<i>No.</i>	<i>Used on</i>	<i>Size Hex. Inches</i>	<i>Length Inches</i>	<i>Price</i>
1-S	Lower Crank Case Cover Screws Ring Gear to Differential and Housing Bolts and Nuts Horn Bracket Bolts Steering Gear Tubing Assembly Dash Board Nuts Coil Box to Dash—Bolt and Nuts Body to Dash—Bolt and Nuts	$\frac{1}{2}$	13	\$1.00
2-S	Front Cover Screws Valve Cover Nuts Driving Plate Screws Radius Bolt Cap Nuts	$\frac{9}{16}$	13	1.00
3-S	Crank Case Screws and Nuts Transmission Cover Bolts and Nuts Manifold Stud Nuts Fan Adjustment Bolts Steering Gear Connecting Rods Bolts and Nuts	$\frac{9}{16}$	19	1.00
4-S	Radiator Stud Nut Front Fender Iron Bolts, Nuts	$\frac{9}{16}$	30	1.10
5-S	Cylinder Head Cap Screws Drive Shaft Bearing Housing Nuts	$\frac{5}{8}$	24	1.10
6-S	Main Bearing Hexagon Nuts	$\frac{3}{4}$	14	1.20
7-S	Main Bearing Square Head Bolt	$\frac{9}{16}$ sq.	14	1.20
8-S	Main Bearing Square Head Bolt With Motor in Chassis	$\frac{9}{16}$ sq.	18	1.20
9-S	Fan Bracket Bolt Steering Gear Ball Arm Lock Nut	$\frac{3}{4}$	24	1.20
15-S	Tire Carrier	$\frac{1}{2}$	24	1.00
16-S	Rear Perch Nut	1	18	1.20
26-S	Connecting Rod With Motor in Chassis	$\frac{5}{8}$	17	1.00
28-S	Spindle Body and Spindle Arm Bolts Truck Rear Axle Housing Nuts	$\frac{11}{16}$	14	1.00
29-S	Body Bolts	$\frac{11}{16}$	21½	1.00



L Wrenches

<i>No.</i>	<i>Used on</i>	<i>Size Hex. Inches</i>	<i>Price</i>
1L	Cylinder Head Cap Screws Drive Shaft Roller Bearing Nuts Tractor Crank Case Bolts	$\frac{5}{8}$	\$0.85
2L	Main Bearing Hexagon Nuts	$\frac{3}{4}$	.85
3L	Main Bearing Square Head Bolt	$\frac{9}{16}$ sq.	.85
4L	Generator. Special Bend Wrench	$\frac{5}{8}$	.90
6L	Drive Shaft Pinion Nut Front Perch Nut	$\frac{15}{16}$	.95
7L	Front Radius Rod Nut Spindle Arm Nut Tractor Crank Shaft Bearing Cap Bolts Tractor Rear Axle Housing Bolts	$\frac{7}{8}$	.95
8L	Differential Housing Bolts and Nuts	$\frac{1}{2}$	.75
10L	Spindle Body and Spindle Arm Bolts Body Bolts and Hub Bolts Truck Rear Axle Housing Bolts and Nuts	$\frac{11}{16}$	.85
11L	Crank Case Bolts and Nuts Transmission Bolts and Nuts	$\frac{9}{16}$	.75
12L	Carburetor. Special Bend Wrench	$\frac{9}{16}$	.75
13L	Rear Axle Nut. Extra Heavy	$\frac{15}{16}$	1.50

The first four fit Walden and many other makes of speeders.

Replacement Sockets

No.	1B	$\frac{1}{2}$ " Hexagon for $\frac{7}{16}$ " speeder shanks.....	\$0.40
No.	2B	$\frac{5}{16}$ " Hexagon for $\frac{7}{16}$ " speeder shanks.....	.40
No.	3B	$\frac{5}{8}$ " Hexagon for $\frac{7}{16}$ " speeder shanks.....	.50
No.	4B	$\frac{11}{16}$ " Hexagon for $\frac{7}{16}$ " speeder shanks.....	.50
No.	5B	$\frac{3}{4}$ " Hexagon for $\frac{9}{16}$ " speeder shanks.....	.60
No.	6B	$\frac{7}{8}$ " Hexagon for $\frac{9}{16}$ " speeder shanks.....	.60
No.	7B	1" Hexagon for $\frac{9}{16}$ " speeder shanks.....	.65
No.	8B	$1\frac{1}{16}$ " Hexagon for $\frac{9}{16}$ " speeder shanks.....	.70
No.	9B	$\frac{9}{16}$ " Square for $\frac{9}{16}$ " speeder shanks.....	.50
No.	10B	Front Wheel Cone for $\frac{7}{16}$ " speeder shanks.....	.90



Special Tools

Pedal Bending Bar (shown above) of machine steel.....	\$4.50
Lapping Bar, for lapping in tight pistons, machine steel.....	3.50

What Users Think of Danielson Equipment

Gentlemen:

For your information we have been using Danielson equipment in our shop since 1917, which includes Motor Stand, Running-in Machine, all kinds of wrenches, Connecting Rod Jig, Rebabbiting Jig and practically everything that is necessary in a well equipped Ford Shop. These tools have given us excellent service and we have had many compliments from visitors as to the equipment and lay-out of our shop.

The Ford Motor Company has made it a practice for the last five years of mentioning our place to their dealers as being the best Ford equipped service station they have ever seen.

We have established the reputation of turning out good work and attribute a great deal of it to the equipment which we have.

I am enclosing a picture of this shop, in order that you may see how it is laid out.

Very truly yours,

RAY F. MUDD MOTOR COMPANY,
Chicago, Ill.

Ray F. Mudd,
Manager.

Gentlemen:

We installed a Danielson Cylinder Reaming Machine some two months ago and reamed about 60 or 70 cylinders since then. Every job was satisfactory. We ream the four cylinders in about 30 minutes.

We cannot compliment you too highly on the success of this machine, although we expected it to work satisfactorily at the time we purchased it as all your tools and machinery that we have used have been highly satisfactory.

Yours very truly,

SNOW BROS.
Earl C. Snow.

Oak Park, Ill.

Dear Sir:

This letter will serve to confirm our conversation of yesterday giving you an order for the Reboring Machine. We will send our wagon to your shop tomorrow to pick up this machine. I also of course want to give an order for one reamer for this machine.

You were inquiring of me regarding speeder wrenches. Please be advised that I find we have enough at present to fill our requirements. The quality of your tools cannot be questioned as yours is the only speeder wrench which I have found that will indefinitely hold up under the severe test we put them through in our shop. You

will recall we are also using one of your burning-in machines and a motor test stand which we purchased of you five years ago and which has been in constant use ever since giving us absolutely no trouble or expense.

Yours very truly,

CHARLES J. DEMPSEY, Inc.
Chicago, Ill.

By Charles J. Dempsey.

Gentlemen:

After five years' constant service, the dependability of Danielson Tools and Equipment prompts me to express my personal appreciation.

The burning-in machine and other tools have given much satisfaction and since the date of their purchase I have not expended one penny in the way of repairs.

Their quality and workmanship deserve high recommendation.

Very truly yours,

Chicago, Ill.

Harry L. Piper,
S & L MOTOR COMPANY.

Dear Sir:

We wish to take this opportunity in advising you of the satisfactory manner in which your tools and equipment have stood up in our shop.

The burning-in machine, which we have had in operation for the past three years, has never given us a minute's grief in any respect; we believe this speaks very highly for this particular machine, due to the tremendous strain that it is subjected to.

We also wish to mention that your various wrenches, used in repairs to Ford cars, are, in our estimation, superior to any other wrench intended for this purpose.

WRIGHT-KENDERDINE CO.

C. H. Stall, Superintendent.
Chicago, Ill.

Gentlemen:

We have been using Danielson Tools and Machinery exclusively for the last 7 years. Our Machinery is still in operation and working entirely satisfactorily. We have just added a Danielson Main Bearing Boring Machine for Ford and Fordson, also a Danielson Cylinder Reaming Machine; we can rebores a cylinder block in 25 minutes.

We have yet to spend one penny for repairs of any Danielson Equipment.

Cicero, Ill.

Yours very truly,

A. J. NEWQUIST,
VRBA MOTOR COMPANY.

A Partial List of Users of Danielson Service Station Equipment

Vrba Motor Co.....	Cicero, Illinois
Shoreen Motor Co.....	Evanston, Illinois
Mackemer Motor Car Co.....	Peoria, Illinois
Snow Bros.	Oak Park, Illinois
Skokie Motor Co.....	Winnetka, Illinois
Barker Motor Co.....	Danville, Illinois
Even N. Bunnell Motor Co.....	Hammond, Indiana
Barber & Warnock Co.....	Indianapolis, Indiana
Hanley Dawson	Detroit, Michigan
Detroit Motor Sales Co.....	Detroit, Michigan
Maurice W. Fox Co.....	Detroit, Michigan
Johns Bros.	Detroit, Michigan
Modern Sales & Service Co.....	Detroit, Michigan
Max O'Leary	Detroit, Michigan
Aug. Brandt Co.....	Appleton, Wisconsin
Mickelson Auto Co.....	Hartford, Wisconsin
Netter Heiser & Co.....	Milwaukee, Wisconsin
Holmes Motor Co.....	Milwaukee, Wisconsin
Bailey Motor Co.....	Milwaukee, Wisconsin
Swendson Motor Sales Co.....	Milwaukee, Wisconsin
Becker Whitney Motor Co.....	Chicago, Illinois
Boone Motor Co.....	Chicago, Illinois
Charles J. Dempsey.....	Chicago, Illinois
Dealers' Equipment Co.....	Chicago, Illinois
Hesser & Soden	Chicago, Illinois
Glenn E. Holmes, Inc.....	Chicago, Illinois
Howe Bros., Inc.	Chicago, Illinois
Litsinger Motor Co.....	Chicago, Illinois
Ray F. Mudd	Chicago, Illinois
E. C. Pollard Motor Co.....	Chicago, Illinois